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| 10/531,436 | 04/14/2005 | Masanori Uga | 5259-000050/NP | 6901 |

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|---|
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/531,436 | UGA ET AL. |
| | Examiner | Art Unit | |
| | JOSHUA SMITH | 2477 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on *30 July 2009*.
2a) ☒ This action is **FINAL**.       2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) *23 and 24* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *23 and 24* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

## DETAILED ACTION

The amendment filed 07/30/2009 has been entered.

- **Claims 23 and 24 are pending.**

- **Claims 1-22 are cancelled.**

- **Claims 23 and 24 stand rejected.**

### *Claim Rejections - 35 USC § 103*

1.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.      The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.      Determining the scope and contents of the prior art.
2.      Ascertaining the differences between the prior art and the claims at issue.
3.      Resolving the level of ordinary skill in the pertinent art.
4.      Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Burnett

(Pub. No.: US 2004/0071139 A1) in view of Wybenga et al. (Pub. No.: US

2004/0223502 A1), hereafter respectively referred to as Burnett and Wybenga.

**In regard to Claim 23**, Burnett teaches in paragraphs [0018] and [0021], and in

FIGS. 4 and 5, operations and maintenance (OAM) cells (control packets) used to

provide various maintenance functions within an ATM network, and SRAMs 334, 336

(FIGS. 4 and 5) are 512 kbyte memories having an 18-bit address bus and a 16-bit data

bus, and A memory elements 301, 303 (FIG. 5) comprises 128 kbytes of the SRAM 334

or 336 covered by addresses 00000-0FFFFhex, and the B memory elements 302, 304

(FIG. 5) comprise 128 kbytes covered by addresses 10000-1FFFF hex, and addresses

20000-20007 hex store A and B copies of per channel cell counters and addresses

20008-2000D hex store A and B copies of per channel OAM/RM cell counters (receiving

a control packet).

Burnett teaches in paragraphs [0026] and [0027], and in FIGS. 2-6, as each cell

200 (FIG. 2) is presented on the network channels 326, 327 (FIG. 4) (receiving a control

packet according to a prescribed routing protocol), the cell 200 is stored and processed

by respective FPGA 330, 331 (FIG. 4) (storing a remaining item of the control packet in

an external memory), and the FPGA circuitry parses the cell 200, which results in an

associated stream identifier 402 (FIG. 6) (a prescribed item) that is specified in the

header 201 (FIG. 2) of the cell 200, and the stream identifier 402 is a concatenation of

the binary ATM VP/VC pair present in the header of every data cell 200, and the

process polls the CAM 332 (FIG. 4) to determine 403 (FIG. 6) if the stream identifier 402

of the current cell matches a value that is already stored in one of the entries of a CAM

332 (determining whether a new control packet matches a previous control packet

previously registered with the CAM in terms of the prescribed item), and if the stream

identifier is not known 409 (FIG. 6) and does not match a value that is already stored in

one of the entries of the CAM 332, it is necessary to add it to the CAM 332, and the

process obtains 410 (FIG. 6) a next available CAM address 411 (FIG. 6) in the CAM

332, and a value of the stream identifier 402 is then stored 412 (FIG. 6) in the CAM

entry specified by the next available CAM address 411 (FIG. 6) (storing a prescribed

item of a control packet regarding a physical address in a content addressable memory

(CAM)), and the next available CAM address 411 is related to a starting address index

for one of the data blocks 340 through 345 (FIG. 5) in the first and second A and B

(FIGS. 4 and 5) memory elements 301 through 304 (FIG. 5) that is to contain data

(storing a remaining item of the control packet in an external memory) for the stream

identifier 402 currently being processed, and therefore, the process sets 413 (FIG. 6)

the valid stream bit in the configuration data, and during periodic reads of the

configuration data, the LLP 324 (FIG. 3) recognizes that a new stream is added and

maintains the stream identifier to CAM address location relationships for later use, and

the process then updates 407 (FIG. 6) the network performance data into the

appropriate data block of the memory element 334 or 336 (FIGS. 4 and 5) (storing a

remaining item of the control packet in an external memory), and repeats 408 (FIG. 6)

the process for the next cell 200 (receiving a control packet according to a prescribed

routing protocol, storing a prescribed item of a control packet regarding a physical

address in a content addressable memory (CAM), storing a remaining item of the

control packet in an external memory, determining whether a new control packet

matches a previous control packet previously registered with the CAM in terms of the

prescribed item).

Burnett teaches in paragraphs [0026] and [0027], and in FIGS. 2-6, a process

polls a CAM 332 (FIGS. 4 and 5) to determine 403 (FIG. 6) if the stream identifier 402

(FIG. 6) of a current cell matches a value that is already stored in one of the entries of

the CAM 332 (determining whether a new control packet matches a previous control

packet previously registered with a CAM in terms of a prescribed item), and if the

stream identifier 402 is already present in the CAM 332, see 404 (FIG. 6), the CAM 332

returns 405 (FIG. 6) a CAM address 406 (FIG. 6), and the CAM address 406 is related

to the starting address of the data block in the SRAM 334 or 336 (FIGS. 4 and 5)

(retrieving a desired data base based on a determination result with reference to the

CAM), and the process then updates 407 (FIG. 6) the network performance data into

the appropriate data block of the memory element 334 or 336 (FIGS. 4 and 5)

(retrieving a desired data base based on a determination result with reference to the

CAM), and repeats 408 (FIG. 6) the process for the next cell 200 (determining whether

a new control packet matches a previous control packet previously registered with a

CAM in terms of a prescribed item, and retrieving a desired data base based on a

determination result with reference to the CAM).

The CAM taught by Burnett implies other types of CAMs, such as TCAMs, and it

would have been obvious to one of ordinary skill in the art at the time of the invention to

introduce a TCAM into the system of Burnett since TCAM technology allows superior

lookup processes and would allow highly efficient information lookups to be performed

in the memories in the system of Burnett.

Burnett fails to teach a link state database (LSDB) involved with a content

addressable memory.

Wybenga teaches in paragraphs [0027]-[0029], and in FIGS. 1 and 2, distributed

architecture router 100 (FIG. 1) requires an efficient mechanism of monitoring the

activity of each routing node 110, 120, 130, and 140 (FIG. 1), and distributed

architecture router 100 implements a routing coordination protocol called "loosely-

coupled unified environment (LUE) protocol" that enables all of the independent routing

nodes to act as a single router by maintaining a consistent link-state database (a link

state database (LSDB))for each routing node, and FIG. 2 illustrates selected portions of

exemplary routing node 120 in distributed architecture router 100, and where

classification module 230 (FIG. 2) comprises content addressable memory (CAM) 231

(FIG. 2) (a link state database (LSDB) and a content addressable memory).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the teachings of Wybenga with the teachings of Burnett since

Wybenga provides a system where a distributed architecture router is implemented and

involves efficient operations through link-state databases, which can be introduced into

the teachings of Burnett to provide the advantages of a distributed routing architecture

and to increase these advantages by utilizing link-state databases, and would allow a

test device to provide highly efficient routing and would make possible a testing device

to be incorporated as a forwarding network device and not merely as a separate unit in

a network, allowing a reduced number of separate devices to be used in a network and

reducing network complexity in operation, topology, and maintenance, and to allow

storage of testing information in relation to link states.


**Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Burnett

in view of Wybenga, and further in view of Hamada et al. (Pub. No.: US 2004/0042418

A1), hereafter referred to as Hamada.

**In regard to Claim 24**, as discussed in the rejection of Claim 23, Burnett in view

of Wybenga teaches a method and a control packet.

Burnett fails to teach a new control packet is transferred to a router when a new

control packet does not match a previous control packet, and the new control packet is

discarded when the new control packet matches a previous control packet.

Hamada teaches in paragraph [0029], and in FIG. 1, each root node 12 (FIG. 1),

upon receiving a tunneled packet, forwards the packet to the intended destination, and

copies of the packet potentially propagate along a number of different transmission

routes to reach the destination, and in the given example, node E will receive four

copies of the control packet, and based upon a watermark or other suitable information

within the packets, node E may discard duplicative packets, for example, using the

transmission control protocol/internet protocol (TCP/IP) sequence number, node E can

identify and discard duplicative packets, and in the event of a fault, node E may not

receive all four copies of the control packet from node A, however, given any single link

fault, node E will receive at least one copy of the control packet (a new control packet is

transferred to a router when a new control packet does not match a previous control

packet, and the new control packet is discarded when the new control packet matches a

previous control packet).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the teachings of Hamada with the teachings of Burnett in view of

Wybenga since Hamada provides teaches where copy control packets are discarded

when a first control packet has already been received, which can be introduced into the

teachings of Burnett in view of Wybenga to prevent unnecessary processing and

forwarding of control packets in a network.


### *Response to Arguments*

## I. Arguments for Claim Objections

Applicant's arguments, see page 4, filed 07/30/2009, with respect to Claim

Objections of Claims 12 and 16 have been fully considered and are persuasive. The

Claim Objections of Claims 12 and 16 have been withdrawn.

## II. Arguments for Claim Rejections under 35 USC § 112

Applicant's arguments, see page 4, filed 07/30/2009, with respect to Claim

Rejections under 35 USC § 112 of Claims 12-19 have been fully considered and are

persuasive.  The Claim Rejections under 35 USC § 112 of Claims 12-19 have been

withdrawn.

## III. Arguments for Claim Rejections under 35 USC § 103

3.      Applicant's arguments with respect to claims 23 and 24 have been considered

but are moot in view of the new ground(s) of rejection.

### *Conclusion*

4.      Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action.  Accordingly, **THIS ACTION IS MADE FINAL**.  See MPEP

§ 706.07(a).  Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action.  In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SMITH whose telephone number is 571-270-1826. The examiner can normally be reached on Monday-Friday, 10:30am-7pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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12-02-2009

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12-4-2009